

Appl. No. 10/605,984  
Docket No. PES-D-00014/PES-0069

## REMARKS / ARGUMENTS

### Status of Claims

Claims 1-33 are pending in the application. Claims 1-6, 26 and 33 stand rejected. Claims 7-25 and 27-32 are withdrawn from consideration. Applicant has cancelled Claims 7-25 and 27-33, and has amended Claims 1-3 and 26, leaving Claims 1-6 and 26 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

### Rejections Under 35 U.S.C. §102(b)

Claims 1, 4-6, 26 and 33 stand rejected under 35 U.S.C. §102(b) as being anticipated by Fronk et al. (U.S. Patent No. 6,372,376, hereinafter Fronk).

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*" *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the \*\*\* claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

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Applicant has amended Claim 1 to now recite, inter alia,

"... wherein said first cell separator plate, said second cell separator plate, said first frame member, said second frame member, or a combination thereof comprising at least one of the foregoing, are at least partially coated with a layer having a coating composition comprising elemental carbon;

wherein particles of said elemental carbon are present in an amount of equal to or greater than about 10 wt% and equal to or less than about 20 wt% based upon a total dry weight of the coating composition..."

No new matter has been added by these amendments as antecedent support may be found in the specification as originally filed, such as at Paragraph [0036-0044], for example.

Dependent claims inherit all of the limitations of the respective parent claim.

In comparing Fronk with the claimed invention as amended, Applicant finds Fronk to disclose "Carbon/graphite containing coatings will typically contain 25 percent by weight carbon/graphite particles." (Fronk, col. 4, lines 65-67).

At col.6, lines 34-45, Applicant finds Fronk to disclose "To this solution [polyamide-imide dissolved in a solvent comprising a mixture of N-methylpyrrolidone, propylene glycol and methyl ether acetate] is added about 21% to about 23% by weight of a mixture of graphite and carbon black particles... The mixture is... *dried* and cured... having a carbon-graphite content of about *38% by weight*."

In view of the disclosure in Fronk, Applicant finds Fronk to disclose a mixture in solution form having about 21% to 23% graphite/carbon black, which results in a coating in *dried* and cured form having "a carbon-graphite content of about *38% by weight*."

In comparing Fronk with the claimed invention, Applicant finds Fronk to be absent "wherein particles of said elemental carbon are present in an amount of equal to or greater than about 10 wt% and equal to or less than about 20 wt% *based upon a total dry weight of the coating composition*".

Accordingly, Applicant submits that Fronk does not disclose all of the claimed elements arranged as in the claim, and absent anticipatory disclosure in Fronk of each and

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every element of the claimed invention arranged as in the claim, Fronk cannot be anticipatory.

Regarding Claims 5 and 6 More Specifically

The Examiner alleges anticipation by remarking that the resistivity of Fronk "is considered to inherently be less than 1 ohm-cm because the mixture of carbon black/graphite/resin binder described in Fronk is substantially identical to the disclosed mixture of carbon black/graphite/resin binder such that one of ordinary skill in the art would have expected the coating of Fronk to have the same properties as claimed."

Here, Applicant finds the Examiner to be relying on anticipation by *inherency*, which must be supported by a finding that the reference *necessarily* includes the particular limitations of the claimed invention.

In comparing Fronk with the claimed invention, Applicant finds Fronk to disclose a coating having a resistivity less than about 50 ohm-cm, the coating comprising conductive particles dispersed in *a polymer mixture*, the polymer matrix comprising a water insoluble polymer that can be formed into *a thin film* (col. 4, lines 49-53, and col. 4, line 67 through col. 5, line 9).

Applicant does not claim a thin polymer film. Accordingly, Applicant submits that the Fronk coating is not substantially identical to the disclosed mixture, as alleged by the Examiner.

In view of the subject matter disclosed in Fronk, Applicant finds no indication that Fronk *necessarily* discloses the claimed coating composition having the claimed resistivity. In fact, in view of the very disclosure in Fronk being absent any discussion of coating resistivities of 10 ohm-cm or 1 ohm-cm, it is plausible that Fronk is limited to a coating having a resistivity just under 50 ohm-cm, and not *necessarily* at 10 ohm-cm or 1 ohm-cm.

In view of Fronk not *necessarily* including the claimed limitations of the instant invention, Applicant respectfully submits that an allegation of anticipation by *inherency* cannot stand, and respectfully requests reconsideration and withdrawal thereof.

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Regarding Claim 26 More Specifically

Applicant has amended Claim 26 to now recite, inter alia, "10 ohm-cm".

In view of the discussion set forth above regarding resistivities, Applicant submits that Fronk does not *necessarily* disclose "10 ohm-cm".

Accordingly, Applicant submits that the anticipation rejection of Claim 26 has been traversed, and respectfully requests reconsideration and withdrawal thereof.

In view of the amendment and foregoing remarks, Applicant submits that Fronk does not disclose each and every element of the claimed invention arranged as claimed (literally or inherently) and therefore cannot be anticipatory. Accordingly, Applicant respectfully submits that the Examiner's rejection under 35 U.S.C. §102(b) has been traversed, and requests that the Examiner reconsider and withdraw of this rejection.

Rejections Under 35 U.S.C. §103(a)

Claims 2-3, stand rejected under 35 U.S.C. §103(a) as being unpatentable over Fronk in view of Shiepe et al. (U.S. Patent No. 6,365,032, hereinafter Shiepe).

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that the obviousness rejection based on the References is improper as the References fail to teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

Applicant has amended Claim 2 to now recite, inter alia,

"...wherein said pressure pad and said pressure pad separator plate are at least partially coated with a layer having the coating composition."

No new matter has been added as antecedent support can be found in the application as originally filed, such as at Paragraph [0030], for example.

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In alleging obviousness, the Examiner alleges that it would have been obvious to apply the Shiepe pressure pad and pressure pad separator plate to Fronk to provide intimate contact and ensure operability over long periods of time, and to apply the Fronk coating to the Shiepe separator plate to improve conductivity and cell efficiency.

In comparing Fronk as modified by Shiepe, Applicant finds no teaching, suggestion or motivation to apply the Fronk coating to the Shiepe pressure pad, as the pressure pad is not in the reaction field proximate the membrane-electrode-assembly. Thus, Applicant submits that the combination of Fronk and Shiepe lack any motivation to arrive at the instant claimed invention.

Additionally, Applicant has amended independent Claim 1 to now also recite, inter alia,

"...wherein said elemental carbon comprises an admixture of carbon black and graphite having a graphite to carbon black weight to weight ratio of at least 1:100 and at most 100:1."

No new matter has been added as antecedent support can be found in the application as originally filed, such as at Paragraph [0043], for example.

Dependent claims inherit all of the limitations of the parent claim and any intervening claims.

In comparing Fronk, separately or in combination with Shiepe, with the claimed invention, Applicant finds Fronk to disclose "Most preferably, the particles will comprise carbon or graphite..." (col. 4, lines 60-61), and to disclose "carbon/graphite particles" (col. 4 lines 66-67). Here, Applicant finds Fronk to be indifferent as to whether the particles are carbon or graphite. However, at column 6, lines 35-36, Applicant finds Fronk to disclose "a mixture of graphite and carbon black particles". As such, Applicant finds Fronk to be indifferent in one respect, and particular in another, but in either case, to be silent as to the weight to weight ratio of the admixture of graphite to carbon black.

Accordingly, Applicant not only finds Fronk to be absent disclosure of each and every element of the claimed invention arranged as claimed, but also to the absent any

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teaching, suggestion or motivation to utilize the particular weight to weight ratio as claimed in such a manner as to perform as the claimed invention performs.

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the patent Applicant has done, fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, and discloses a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §103(a), which Applicant considers to be traversed.

In light of the forgoing, Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. §102(b), and 35 U.S.C. §103(a), have been traversed, and respectfully requests that the Examiner reconsider and withdraw these rejections.

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The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 06-1130. In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-identified Deposit Account.

Respectfully submitted,

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